

Please Amend the following claims:

- 1 **1.** (Amended) An improved infrared transceiver system comprising:
- 2 first sensing means for detecting infrared signals incident thereon and converting
- 3 said signals to an electrical current signal;
- 4 gain control means for amplifying said current signals;[and]
- 5 voltage conversion means for converting said current signals into voltage signals;
- 6 and
- 7 staged current amplification means in circuit between said gain control means and
- 8 said voltage conversion means, said staged amplification means comprised of at least two
- 9 amplification stages, each said stage amplifying said current signals.
- 1 **4.** (Amended) The system of Claim [2]1, wherein said gain control means comprises a
- 2 current mirror in operative connection with [a transimpedance]said staged current
- 3 amplification means[amplifier].
- 1 **5.** (Amended) The system of Claim 4, wherein said [transimpedance amplifier]current
- 2 amplification means comprises:
- 3 a first transistor means, said first transistor means comprising a first drain and a first gate;
- 4 a second transistor means, said second transistor means comprising a second source and a
- 5 second drain, said second source being in circuit with said first drain;
- 6 a third transistor means, said third transistor means comprising a third gate and a third
- 7 source, said third gate being in circuit with said second drain; and
- 8 a fourth transistor means, said fourth transistor means comprising a fourth drain and a
- 9 fourth gate, said fourth drain in circuit with said fourth gate and said first gate.
- 1 **9.** (Amended) A improved method for detecting and amplifying incident wireless
- 2 signals, said method being implemented in a infrared transceiver system comprising

3 signal detecting means and signal amplifying means, said method comprising the steps
4 of:

5 said signal detecting means converting said incident wireless signals into electrical
6 current signals; and

7 said amplifying means amplifying said electrical current signals, said amplifying step
8 comprising at least two stages of amplification of said current signals.

1 **10.** (Amended) The method of Claim 9, wherein each said stage of said amplifying
2 comprises amplifying said current signals in a transistor operating in the weak inversion
3 range[gain control means further comprises staged current amplification means for
4 amplifying said current signals in stages, said current amplification means in circuit
5 before said voltage conversion means].

1 **11.** (Amended) An improved wireless signal receiver system, comprising:
2 first sensing means for detecting wireless signals incident thereon and converting said
3 signals to an electrical current signal;
4 gain control means for amplifying said current signals, said gain control means
5 comprising at least one transistor means operating in the weak inversion range; and
6 voltage conversion means for converting said amplified current signals into voltage
7 signals.

1 **12.** (Amended) The system of Claim 11, wherein said gain control means further
2 comprises[ing] staged current amplifier[cation means] operating in the weak inversion
3 range[in circuit between said gain control means and said voltage conversion means, said
4 staged amplification means configured to amplify said current signals].

1 13. (Amended) The system of Claim 12, wherein said gain control means further
2 comprises a current mirror in operative connection with [a transimpedance amplifier]said
3 current amplifier.

1 14. (Amended) The system of Claim 13, wherein said [transimpedance]current amplifier
2 comprises:

3 a first transistor means, said first transistor means comprising a first drain and a first gate;

4 a second transistor means, said second transistor means comprising a second source and a
5 second drain, said second source being in circuit with said first drain;

6 a third transistor means, said third transistor means comprising a third gate and a third
7 source, said third gate being in circuit with said second drain; and

8 a fourth transistor means, said fourth transistor means comprising a fourth drain and a
9 fourth gate, said fourth drain in circuit with said fourth gate and said first gate.

✓
Please add the following new claims: ✓

B1
1 ~~18. The system of Claim 1, wherein each said amplification stage comprises one transistor~~
2 ~~means, each said transistor means comprising a bias voltage, and wherein said bias voltage is~~
3 ~~dynamically adjusted in order to operate each said transistor in a weak inversion range.~~

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Clean Version of Amended Claims:

B1

1 1. ~~An improved infrared transceiver system comprising:~~
2 first sensing means for detecting infrared signals incident thereon and converting
3 said signals to an electrical current signal;
4 gain control means for amplifying said current signals;
5 voltage conversion means for converting said current signals into voltage signals;
6 and
7 staged current amplification means in circuit between said gain control means and
8 said voltage conversion means, said staged amplification means comprised of at least two
9 ~~amplification stages, each said stage amplifying said current signals.~~

1 4. ~~The system of Claim 1, wherein said gain control means comprises a current mirror in~~
2 ~~operative connection with said staged current amplification means.~~

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C1

1 5. ~~The system of Claim 4, wherein said current amplification means comprises:~~
2 a first transistor means, said first transistor means comprising a first drain and a first gate;
3 a second transistor means, said second transistor means comprising a second source and a
4 second drain, said second source being in circuit with said first drain;
5 a third transistor means, said third transistor means comprising a third gate and a third
6 source, said third gate being in circuit with said second drain; and
7 a fourth transistor means, said fourth transistor means comprising a fourth drain and a
8 ~~fourth gate, said fourth drain in circuit with said fourth gate and said first gate.~~

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1 9. ~~A improved method for detecting and amplifying incident wireless signals, said~~
2 ~~method being implemented in a infrared transceiver system comprising signal detecting~~
3 ~~means and signal amplifying means, said method comprising the steps of:~~
4 ~~said signal detecting means converting said incident wireless signals into electrical~~
5 ~~current signals; and~~

6 said amplifying means ~~amplifying said electrical current signals, said amplifying step~~
7 comprising at least two stages of amplification of said current signals.

1 ~~10. The method of Claim 9, wherein each said stage of said amplifying comprises~~
2 ~~amplifying said current signals in a transistor operating in the weak inversion range.~~

1 ~~11. An improved wireless signal receiver system, comprising:~~

2 first sensing means for detecting wireless signals incident thereon and converting said
3 signals to an electrical current signal;

4 gain control means for amplifying said current signals, said gain control means
5 comprising at least one transistor means operating in the weak inversion range; and

6 voltage conversion means for converting said amplified current signals into voltage
7 signals.

1 12. The system of Claim 11, wherein said gain control means further comprises staged
2 current amplifier operating in the weak inversion range.

1 13. The system of Claim 12, wherein said gain control means further comprises a current
2 ~~mirror in operative connection with said current amplifier.~~

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Cont
- 1 14. The system of Claim 13, wherein said current amplifier comprises:
2 a first transistor means, said first transistor means comprising a first drain and a first gate;
3 a second transistor means, said second transistor means comprising a second source and a
4 second drain, said second source being in circuit with said first drain;
5 a third transistor means, said third transistor means comprising a third gate and a third
6 source, said third gate being in circuit with said second drain; and
7 a fourth transistor means, said fourth transistor means comprising a fourth drain and a
8 fourth gate, said fourth drain in circuit with said fourth gate and said first gate.
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